

Remarks

Claims 1, 3-10 and 12-18 currently stand rejected. Claims 1, 4, 10 and 13 are amended in this response. Claims 3 and 12 are canceled herein; thus, claims 1, 4-10 and 13-18 remain pending in the application. The Assignee respectfully traverses the rejections and requests allowance of claims 1, 4-10 and 13-18.

Claim Amendments

Claim 1 is amended to clarify that the received optical signal is received from the optic fiber, as shown in Fig. 4 and described on page 9, lines 12-16. Thus, the first optical signal and the second optical signal, which are derived from the received optical signal, are aligned with the principal states of polarization of this fiber. Claim 10 is been similarly amended.

Claim 1 is also amended to include low-pass-filtering, amplifying, and processing of the fifth electrical signal to align polarizations of the received optical signal with a principal axis of a splitter, as indicated in Fig. 4 and discussed on page 9, line 30, to page 10, line 6. Claim 10 is amended in a similar manner. As these amendments are derived in part from the provisions of claims 3 and 12, these claims are canceled.

Claim 4 is amended to indicate that control instructions to align the polarizations of the received optical signal with the principal axis of the splitter are generated by way of a control algorithm, which is indicated in Fig. 4; page 9, lines 9-11; and page 10, lines 5 and 6. Claim 13 is amended in a similar fashion.

Claim Rejections Under 35 U.S.C. § 112

Claims 1 and 10 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Assignee regards as the invention. (Page 2 of the Office action.) Specifically regarding claim 1, the Office action indicates that the added provision of claim 1, "wherein the first optical signal and the second optical signal are aligned with the principal states of polarization of an optic fiber," does not indicate how the recited fiber fit[s] to the system related to the claimed method." *Id.* Similarly regarding claim 10, the Office action indicates with respect to the same provision that "it is not clear how the recited fiber fit[s] to the claimed system." *Id.* The Assignee

respectfully traverses the rejection based on the current amendments to claims 1 and 10, and the following discussion.

Claims 1 and 10 have been amended to indicate that the received optical signal is from the optic fiber that possesses two principal states of polarization. Thus, the received optical signal is split into a first optical signal and a second optical signal which are aligned with the principal states of polarization of the optic fiber. As a result, amended claims 1 and 10 specifically state how the optic fiber functionally relates to the method of claim 1 and the system of claim 2. Therefore, the Assignee asserts that amended claims 1 and 10 are definite under Section 112, second paragraph, and respectfully requests withdrawal of the indefiniteness rejection.

Claim Rejections Under 35 U.S.C. § 103

1. Buhrer and Prior Art

Claims 1, 5, 6, 10, 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,435,229 to Buhrer (hereinafter "Buhrer") in view of prior art as indicated in Fig. 1 of the present application. (Page 3 of the Office action.) The Assignee respectfully traverses the rejection based on the current amendments to claims 1 and 10, and in light of the following discussion.

Amended claim 1 provides a method of processing a received optical signal from an optic fiber, which includes splitting by way of a splitter the received optical signal into a first optical signal and a second optical signal which "are aligned with the principal states of polarization of the optic fiber." In addition, this alignment is performed by way of processing the fifth electrical signal, which is low-pass-filtered and amplified for this purpose. System claim 10 is similarly amended.

Neither Buhrer nor the polarization mode dispersion (PMD) compensation system 100 depicted in Fig. 1 of the present application employ the low-pass-filtering, amplifying and processing of the fifth electrical signal in order to align polarizations of the received optical signal with a principal axis of a splitter. More specifically, the PMD compensation system 100 does not employ low-pass filtering, amplifying, and processing of an electrical signal carrying user information to control the polarization controller. Further, Buhrer does not employ any kind of feedback in its receiving apparatus.

Thus, the Assignee contends amended claim 1 is allowable for at least this reason, and such indication is respectfully requested.

Also, as claim 10 is currently amended to incorporate corresponding provisions, the Assignee asserts that claim 10 is also allowable for at least the same reasons provided above for claim 1, and such indication is respectfully requested.

In addition, since claims 5 and 6 depend from independent claim 1, and claims 14 and 15 depend from independent claim 10, these claims are allowable for at least the reasons provided above in support their respective independent claims.

Therefore, the Assignee respectfully requests the rejection of claims 1, 5, 6, 10, 14 and 15 be withdrawn.

2. *Shibutani and Prior Art*

Claims 1, 7, 8 and 10 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,972,515 to Shibutani (hereinafter "Shibutani") in view of Fig. 1 of the present application. (Page 4 of the Office action.) The Assignee respectfully traverses the rejection in light of the current amendments to claims 1 and 10, as described above. Like Buhrer, Shibutani does not employ any kind of feedback in its polarization diversity receiver. Also, as described above, the PMD compensation system 100 of Fig. 1 of the present application does not apply this type of feedback to control its polarization controller. Therefore, the Assignee asserts claim 1 is allowable for at least this reason, and such indication is respectfully requested.

Claim 10 is also currently amended to provide similar limitations. Thus, the Assignee contends claim 10 is allowable for at least the same reasons given for claim 1, and such indication is respectfully requested.

Additionally, claims 7 and 8 depend from independent claim 1. Thus, the Assignee asserts claims 7 and 8 are allowable for at least the same reasons as those provided above with respect to claim 1.

Therefore, the Assignee respectfully requests the rejection of claims 1, 7, 8 and 10 be withdrawn.

3. *Buhrer, Prior Art and Way*

Claims 9 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Buhrer in view of Fig. 1 of the present application and further in view of U.S. Patent Application Publication No. US 2002/0030877 A1 to Way et al. (hereinafter "Way"). (Page 6 of the Office action.) The Assignee respectfully traverses the rejection in light of the current amendments to claims 1 and 10 and the preceding discussion.

More specifically, claim 9 depends from independent claim 1, and claim 18 depends from independent claim 10. Thus, the Assignee asserts claims 9 and 18 are allowable for at least the same reasons provided above for claims 1 and 10, and such indication is respectfully requested.

Therefore, the Assignee respectfully requests withdrawal of the rejection of claims 9 and 18.

4. *Prior Art and Buhrer*

Claims 1, 3, 4, 10, 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fig. 1 of the present application in view of Buhrer. (Page 7 of the Office action.) The Assignee respectfully traverses the rejection in view of the current amendments to claims 1 and 10 and the foregoing discussion involving the rejection of Buhrer in view of Fig. 1 of the present application. Thus, the Assignee asserts that claims 1 and 10 are allowable as a result. Further, since claims 4 and 13 depend from independent claims 1 and 10, respectively, and thus incorporate the provisions of those independent claims, the Assignee asserts that claims 4 and 13 are allowable for at least the reasons provided above in conjunction with claims 1 and 10.

As claims 3 and 12 are canceled, the rejection as it pertains to these claims is rendered moot.

Therefore, the Assignee respectfully requests that the rejection of claims 1, 3, 4, 10, 12 and 13 be withdrawn.

5. *Buhrer, Prior Art and Shibutani*

Claims 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Buhrer in view of Fig. 1 of the present application, and further in view of Shibutani. (Page 8 of the Office action.) The Assignee respectfully traverses the rejection in view of the current amendments to claims 1 and 10, as well as the foregoing arguments.

More specifically, since claims 16 and 17 depend from claim 10, and claim 10 has been shown via the previous discussions of claim 1 to be allowable in view of the references cited in the Office action, the Assignee asserts claims 16 and 17 are allowable for at least those same reasons, and respectfully requests such indication.

Therefore, the Assignee respectfully requests withdrawal of the rejection of claims 16 and 17.

Conclusion

Based on the above remarks, the Assignee submits that claims 1, 4-10 and 13-18 are allowable. Additional reasons in support of patentability may exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 1, 4-10 and 13-18.

The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

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SIGNATURE OF PRACTITIONER

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